

go solve!

identification framework

An initiative by
SLP
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In association with





Gifted learners are diverse and heterogenous in their traits and abilities. Yet, studies have indicated some traits that occur with greater frequency amongst gifted learners than in the general population. The Go Solve! programme is designed for learners gifted in mathematics and so it is crucial that parents and educators use this guide to identify gifted traits in learners to enable them to be eligible for the Go Solve! Programme.

The Go Solve! programme is designed to identify learners gifted in mathematics, of a similar age group, so they can speak the same mathematical language with each other and specialised mathematicians.

The programme believes that providing little mathematicians a similar aged peer group with similar mathematical advanced abilities is beneficial for their socio-emotional well-being as compared to accelerating them to learn with higher grade classes of students who are physically and socio-emotionally more developed.

In this guide therefore, a framework is offered for identifying learners gifted in mathematics. For each learner, the framework needs to be interpreted in the context of the learner's socio-cultural background, any overt special abilities and disabilities, and opportunities to advance in mathematics that may or may not be provided at the learner's home and at school. It is impossible to provide a 'checklist' of characteristics, as each learner's abilities and context is unique.

An example of the tremendous benefits for the learner advancing only in mathematics instead of acceleration to higher grades, lies in the story of mathematician Terence Tao. An individualized programme enabled him to master different subjects at his own differentiated pace, advanced him only on mathematics and science, while remaining closer to his own age group in school in other subjects. To know more, please go to www.gosolve.academy.





What is Giftedness?

There is no single definition of giftedness, yet the understanding of it has much evolved. For many years, psychologists have followed Lewis Terman's proposition of equating giftedness with high IQ, such that many schools and parents assume psychometric intelligence and high CAT4 Test result scores to be equivalent to giftedness. However, more recently, a new generation of studies argue that identifying giftedness must go beyond the IQ, and must also factor in the traits, skills, and abilities of a learner.

Go Solve! believes in and builds upon the latter, i.e. the recent studies that illustrate that giftedness is beyond an IQ score, as well as recognizes the 1991 Columbus Group's findings that "Giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm."

Here are a few scientific studies that the Go Solve! identification framework for giftedness is built upon:

1. Cross & Coleman, 2005 - Gifted learners have rapid learning capabilities as compared to others.¹
2. Heller, Perleth, & Lim, 2005 - Gifted learners have substantially greater attention control, memory efficiency, high perception abilities.²
3. Reis, 2005 - Gifted learners have a high desire to develop one's gifts.³
4. Renzulli, 2005 - Substantial level of task commitment of gifted learners.⁴

In fact, Renzulli's three-ring conception was one of the earliest research to have proposed that gifted behaviours result from a synergy of several distinct intrapersonal characteristics.⁵ To know more, please go to 0.

1. Coleman, L. J., & Cross, T. L. (2005). School-Based Conception of Giftedness. *Conceptions of Giftedness*. Cambridge University Press.
2. Perleth, C., Heller, K. A., & Lim, T. K. (2005). The Munich Model of Giftedness Designed to Identify and Promote Gifted Students. *Conceptions of Giftedness*. Cambridge University Press.
3. Reis, S. M. (2005). Feminist Perspectives on Talent Development: A Research-Based Conception of Giftedness in Women. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (2nd ed. Cambridge University Press.
4. Renzulli, J. S., & Piaget, J. (2005). The Three-Ring Conception of Giftedness: A Developmental Model For Promoting Creative Productivity. *Conceptions of Giftedness*. Cambridge University Press.
5. Ibid.



Given the differential 'traits' and heterogeneity, the United States' current federal definition of giftedness states that gifted learners "require services or activities not ordinarily provided by the schools." The 1991 Columbus Group also concedes that "the uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching and counseling in order for them to develop optimally." This forms the basis of the need for specialized institutions such as Go Solve! as well as the Go Solve! Identification Framework for schools and parents to recognize giftedness in young learners so as to provide them with the appropriately specialized pedagogy:

Go Solve! Giftedness Identification Framework



Skills

Research by Renzulli and Reis have identified characteristics of giftedness to include skills such as the **ability to learn more rapidly than other students, understanding of complex or abstract topics, and advanced verbal ability and problem-solving skills.**^{6,7} Steiner also suggested that gifted students **more consistently use advanced problem-solving strategies than other learners.** Frasier and Passow.^{8,9}



Q1

Is your learner able to have substantial depth in conceptual understanding of advanced mathematical concepts that are at least above 2 or 3 grade levels?

Q2

Is your learner able to swiftly **grasp** new advanced mathematical concepts beyond at least 2 or 3 grade levels?

6. Ibid.
7. Reis, S. M. (1989). Reflections on policy affecting the education of gifted and talented students: Past and future perspectives. *American Psychologist*, 44(2)
8. Steiner, H. H. (2006). A microgenetic analysis of strategic variability in gifted and average-ability children. *Gifted Child Quarterly*, 50(4)
9. Frasier, M. M., & Passow, A. H. (1994). *Toward a new paradigm for identifying talent potential* (Research Monograph 94112). Storrs: University of Connecticut, The National Research Center on the Gifted and Talented.

Characteristics

The cognitive characteristics of gifted learners to have **advanced retention** of substantial quantities of information and **advanced comprehension**, is well documented by several researchers.^{10,11} Gifted learners are also found to be **self motivated**, **advancing above grade level without external nudges** from school, peers or family.



Q3

Is your learner easily retaining and comprehending substantial quantities of information across various topics and interests?

Q4

Is your learner motivated to give substantial time and effort consistently towards mathematics without nudges from school, peers, or family?

10. Harrison, C. (2004). Giftedness in early childhood: The search for complexity and connection . Roper Review, 26(2), 78–84.
11. Sankar-DeLeeuw, N. (2004). Case studies of gifted kindergarten children: Profiles of promise . Roper Review, 26(4), 192–207.

Potential

Gifted learners who might not yet have been given the opportunity at school or home to advance ahead of their grade level can be identified by their potential to do so. Their potential is described as **highly observant, curious, and persistent.**^{12,13}

Feldman's research on child prodigies, defined as children usually younger than 10 years old who are performing at the levels of highly skilled adults, suggests that prodigies have **highly focused talent, extreme motivation to develop the talent, and unusual self-confidence in their ability to do so.**¹⁴



Q5

Does your learner demonstrate greater than grade level ability to focus on new tasks undertaken?

Q6

Does your learner demonstrate substantial curiosity to learn beyond grade level mathematics?

12. Harrison, C. (2004). Giftedness in early childhood: The search for complexity and connection . Roper Review, 26(2), 78–84.
13. Sankar-DeLeeuw, N. (2004). Case studies of gifted kindergarten children: Profiles of promise . Roper Review, 26(4), 192–207.
14. Feldman, D. H. (1993). Child prodigies: A distinctive form of giftedness. Gifted Child Quarterly, 37(4), 188–193.

As Go Solve! is a specialized programme specifically for learners gifted in mathematics, parents and educators are strongly encouraged to avoid over statement of abilities and mis-identification of giftedness, as doing so will be detrimental to the learner's growth. On the other hand, it is found that when troubling social and emotional traits do occur in gifted students, they often are the result of a poor fit between the learner and his/her academic or social environment, further indicating to the need for careful identification of giftedness and appropriate nurturing with specialized pedagogy at Go Solve!^{15,16}

School nomination

(for principals, coordinators, subject matter teachers, class teachers)

Please identify and nominate learners who show evidence that responds positively across the 6 questions of the three pillars of the Go Solve! Identification Framework.

Please nominate via email to sustain@labsparis.com.

Parents / guardians application

Please apply on behalf of your child who shows evidence that responds positively across the 6 questions of the three pillars of the Go Solve! Identification Framework.

Please apply via www.gosolve.academy

15. Gross, M. U. M. (2002). Social and emotional issues for exceptionally intellectually gifted students. In M. Neihart, S. M. Reis, N. M. Robinson, & S. M. Moon (Eds.), *The social and emotional development of gifted children: What do we know?* (pp. 19–29). Prufrock Press Inc.

16. Neihart, M., Reis, S. M., Robinson, N. M., & Moon, S. M. (Eds.). (2002). *The social and emotional development of gifted children: What do we know?* Prufrock Press Inc.